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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,932	01/03/2002	Wen-Wen Chiu	CHIU=13	2277

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EXAMINER

CLARK, JASMINE JHIHAN B

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 08/01/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/033,932

Applicant(s)

CHIU, WEN-WEN

Examiner

Jasmine Clark

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 8 and 12-18 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 9-11 and 19 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. The indicated allowability of claims 1-19 is withdrawn in view of the newly discovered reference(s) to Vogel et al. (US 6,317,326). Rejections based on the newly cited reference(s) follow.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 7, 8, and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogel et al. (US 6,317,326 B1).

Vogel et al disclose an IC device package (please see Fig. 2B), comprising a substrate 202 having atop side; a semiconductor chip 206 including a plurality of conductive pads fixedly mounted on the top surface of the substrate 202; adhesive means 212 provided on the top side of the substrate around the border thereof; a cover 210 adapted for covering the substrate 202; and a spacer 226 connected between the substrate 202 and the cover 210 to keep the cover 210 from the substrate 202 at a distance. Furthermore, Vogel et al disclose in column 5, lines 37-39 that ", [o]ther type of package may be used, for example, wire bond BGA,..". While a plurality of conductive pads on the substrate 202 are not clearly shown, they are inherently present

or certainly would have been obvious to include the plurality of conductive pads on the substrate in the chip environment, as is notoriously known.

Concerning claim 2, wherein the adhesive means 212 is applied to the border of the top side of the substrate 202 and covered on the connecting area between the bonding wires and the conductive pads at the top side of the substrate, please see the above discussion regarding "wire bond BGA".

Concerning claim 3, wherein the cover 210 is adhered to the adhesive means 213, please see Fig. 2B.

Concerning claim 4, wherein the spacer 226 comprises at least one column respectively fixedly connected between the substrate 202 and the cover 210, please see Fig. 2B.

Concerning claims 7 and 8, wherein the spacer 226 is comprised of an open frame fixedly connected between the substrate 202 and the cover 210, and wherein the open frame has a recessed portion facing the substrate 202 for receiving the adhesive means, please see Fig. 2B.

Concerning claim 12, wherein the substrate is made of, for example, ceramics, please column 5, line 39.

Concerning claims 13 and 14, wherein the adhesive means is selected from the group consisting of silicones, epoxies.. and/or a double-sided adhesive tape, please see column 3, line 50, and line 67.

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3. Claims 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference as applied to claims 1-4, 7, 8, 12-14 above, and further in view of Shim et al. (US 6,531,784 B1).

As per the above discussion, Vogel et al disclose having the plurality of conductive pads on the substrate, but fail to disclose having a plurality of electronic elements on the top side thereof and electrically connected to the conductive pads at the top side of the substrate 202. Shim et al disclose a semiconductor device including a solder mask 32 which serves as an electronic element mounted on the top side and electrically connected with conductive pads of a substrate, wherein the substrate comprises a plurality of plated through holes electrically connected between conductive pads of the substrate and a plurality of solder bumps 18 at the bottom side of the substrate. Hence, it would have been obvious to one having ordinary skill in the art at the time the invention was made for the applied reference to include the electronic elements on the substrate and are connected with the conductive pads for the reasons as taught by Shim et al., as is well known.

#### ***Allowable Subject Matter***

4. Claims 5, 6, 9-11, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The applied references fail to teach and/or suggest as follows:

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- i) wherein the top side of the substrate has at least one recessed hole adapted to receive one column;
- ii) wherein the substrate comprises at least one locating through hole extended through the top and bottom sides thereof, and at least one column of the spacer is respectively inserted through the at least one locating hole of the substrate and exposed to the outside of the bottom side of the substrate;
- iii) wherein the cover is made of transparent material;
- iv) wherein the cover has a through hole aimed at the chip, and at least one lens respectively sealed in the through hole;
- v) wherein the cover comprises a screw hole extended through the top and bottom side thereof corresponding in location to the chip, and a lens unit mounted in the screw hole, the lens unit comprising a barrel threaded into the screw hole and at least one lens sealed in the barrel;
- vi) wherein the connecting device comprises a plurality of metal leads, the metal leads each having one end electrically connected to the conductive pads at the top side of the substrate and an opposite end extended to the outside of the substrate and bent into a predetermined shape.

### ***Telephone Inquiry Contacts***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasmine Clark whose telephone number is (703) 308-4857. The examiner can normally be reached on M-F from 8:30am to 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee, can be reached on (703) 308-1690. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722 (or 7724).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Jjbc/06/02/03



Jasmine Clark  
Primary Examiner  
AU 2815